

REMARKS

35 U.S.C. § 112

Claims 1-9 and 11-16 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

Claims 1-9 and 11-16 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Claims 1-16 are cancelled above rendering such rejections moot. Newly submitted claims 17-32 do not contain the “S-shaped”, “tapered”, and “substantially elongate” terminology forming the basis for the subject rejection. Claims 17-32, therefore, are considered as fully supported by the specification and drawings as filed and in full statutory compliance.

The Cited Art

Cancelled claims 1, 4, 6-8, and 11-16 were rejected as anticipated or, in the alternative, obvious over Japan ‘207 (JP 6-135207). Currently pending claims 17-32 define the subject invention as a tread including a central array that forms a repeating pattern of tread elements. Each array has a plurality of tread elements distinct in size, shape or orientation relative to adjacent tread elements. Each array includes opposite elongate sides that extend at an angled incline side to side across the tread center from a lower first end adjacent a first shoulder row to an upper second end adjacent the opposite shoulder row. Adjacent arrays in a circumferential direction have an overlapping mutual orientation wherein the upper and lower ends of each array are located circumferentially opposite a midsection of the elongate sides of upper and lower adjacent arrays. Submitted herewith is a reproduction of page 6 from the outstanding Office Action dated June 30, 2004 showing the alternative embodiments of FIGS. 4, 8, and 12. The reproduction is color coded for illustration purposes only to show the overlapping orientation of center tread arrays.

No such overlapping orientation is found in the ‘207 reference or any other of the cited art. The ‘207 reference shows an aligned rather overlapping orientation between adjacent arrays resulting in a straight line circumferential boundary groove between the center arrays and the shoulder rows. The subject invention, achieves a tread pattern that incorporates discontinuities not only through the use of intra-array tread element

differentiation, but also through an overlapping and staggered orientations between circumferentially adjacent arrays that results in an irregular boundary groove condition between the center tread portion and the shoulder portions. Noise reduction achieved by the subject invention from the incorporation of such discontinuities is, therefore, not achieved by the '207 reference. Nor is there any teaching or suggestion in the '207 reference toward a different array configuration that would provide the advantages of the present claimed invention.

Claim 18 recites boundary grooves between adjacent arrays as converging at an angle and intersecting at the first and second ends of the array. A divergence, rather than a convergence, of boundary grooves is found in the '207 reference. Smaller tread elements at the first and second ends of the array are specified in claim 19. Again, the '207 reference teaches larger elements at the ends as a result of boundary groove divergence. Claims 20-28 depending from claim 17 are considered patentably distinct over the '27 reference for the reasons set forth above.

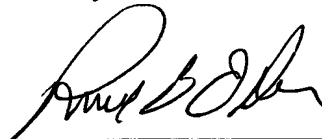
Claim 29 specifies that the shoulder grooves separate the tread center row from the shoulder rows with the shoulder grooves following an angled and inclined segment of the opposite sides of each array. As discussed above, the irregularity resulting from non-linear shoulder groove is not only not found in the '207 reference but results in an advantage in noise reduction not achievable from the cited art.

Claims 30-32 depending from claim 29 likewise patentably define over the '207 art for the reasons set forth above.

The addition of the Japan '935 reference (JP 6-145935) does not eliminate the deficiencies in the primary '207 reference discussed previously or lead one skilled in the art toward the invention set forth in claims 17-32. The '935 reference merely shows that an array having multiple tread elements is known, which Applicant does not dispute. There is, however, no teaching in the '935 reference toward an array having multiple tread elements in which an overlapping relationship is created between adjacent center tread arrays or in which the boundary groove between the center arrays follows an inclined segment of the upper and lower sides of each array. Likewise, Campos is only relevant as showing multiple pitches for a repeating pattern to reduce noise. Campos, however, does not teach or suggest the incorporation of differentiated tread elements into an array configured into a staggered and overlapping repeated pattern about the circumference of a tire.

For the reasons set forth above, Applicants submit that claims 17-32 are patentably distinct over the cited art whether considered singularly or in combination.

Respectfully submitted,



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